



TENNESSEE VALLEY AUTHORITY

Allen Aeroderivative Generation Project

AGENCY: Tennessee Valley Authority.

ACTION: Notice of Intent.

SUMMARY: The Tennessee Valley Authority (TVA) intends to prepare an environmental assessment (EA) or environmental impact statement (EIS) to address the potential environmental impacts associated with the proposed installation and operation of six new aeroderivative combustion turbine (CT) units at the Allen Combustion Turbine (ACT) site, located in Shelby County, Tennessee, southwest of the City of Memphis. The new aeroderivative units would generate approximately 200 Megawatts (MW) of power to help meet the growing system demand. The units would provide flexible and dispatchable transmission grid support and facilitate the integration of renewable generation onto the TVA bulk transmission system, consistent with TVA's 2019 Integrated Resource Plan (IRP). TVA is inviting public comment concerning the scope of the review, alternatives being considered, and environmental issues that should be addressed.

DATES: The public scoping period begins with the publication of this Notice of Intent in the *Federal Register*. To ensure consideration, comments must be postmarked, submitted online, or emailed no later than [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. To facilitate the scoping process, TVA will hold an in-person public open house meeting; see <https://www.tva.gov/NEPA> for more information on the meeting.

ADDRESSES: Written comments should be submitted by email to NEPA@tva.gov or online at <https://www.tva.gov/NEPA>. Comments may also be mailed to Matthew Higdon, NEPA Specialist, 400 West Summit Hill Drive #WT11B, Knoxville, Tennessee 37902.

FOR FURTHER INFORMATION CONTACT: Matthew Higdon by email to nepa@tva.gov, by phone at (865) 632-8051, or by mail at the address above.

SUPPLEMENTARY INFORMATION: This notice is provided in accordance with the Council on Environmental Quality's Regulations (40 CFR parts 1500 to 1508) and TVA's procedures for implementing the National Environmental Policy Act (NEPA). TVA is an agency and instrumentality of the United States, established by an act of Congress in 1933, to foster the social and economic welfare of the people of the Tennessee Valley region and to promote the proper use and conservation of the region's natural resources. One component of this mission is the generation, transmission, and sale of reliable and affordable electric energy.

Preliminary Proposed Action and Alternatives

TVA anticipates that the scope of the EA or EIS will evaluate an Action Alternative and a No Action Alternative. Under the Action Alternative, TVA would install and operate six new aeroderivative combustion turbine units generating approximately 200 MW of power at ACT. TVA would also continue to operate two existing CT units which would provide an additional 120 MW of power. The new units would support fast-start dispatching and have synchronous condensing capabilities to improve grid stability. Four of the units would have black-start capabilities. Under the proposal, TVA would implement the best available control technologies to mitigate air emissions. Construction would occur over a one-year timeframe (approximately) beginning in 2025 or 2026, with construction activities taking place within previously disturbed areas at ACT and adjacent properties. Commercial operations would begin in 2025 or 2026.

Under the No Action Alternative, TVA would not install new aeroderivative CT units at the ACT, and TVA would retire all existing units. The No Action alternative provides a baseline for comparing against the Action Alternative.

Background

In the 2019 IRP, TVA evaluated six scenarios (plausible futures) and five strategies (potential TVA responses to those plausible futures) and identified a range of potential resource additions and retirements throughout the TVA power service area, which encompasses approximately 80,000 square miles. The target supply mix adopted by the TVA Board through the 2019 IRP included the addition of up to 5,200 MW of simple cycle capacity by 2028 to facilitate the integration of solar onto the TVA bulk power system.

Investments in adding aeroderivative CTs to the peaking fleet aligns with the direction in the IRP, which recommended enhancing system flexibility to integrate renewables and distributed resources, with substantial solar additions over the next two decades. As the amount of solar generation on the TVA generation portfolio continues to increase, flexibility of the remainder of the fleet becomes even more important. For instance, cloud patterns that temporarily block the sun and reduce solar generation require other generating units to respond to continue to reliably supply power to customers. Aeroderivative CTs are inherently well-suited to provide flexibility, enabling the remainder of the system to better integrate renewables.

Since the completion of the IRP, TVA has seen a strong increase in electric demand. Population has increased in the TVA service region by 1.5 percent since 2019. TVA expects continued strong growth in annual electric demand through the middle of this decade. Forecasted electric demand is expected to grow more than one percent per year on average between 2023-2026. Current system modeling shows that with increased residential migration and commercial development, TVA must add capacity to the system to maintain adequate operating reserves.

In 2019, TVA also completed a CT Modernization Study to evaluate the condition of its existing CT units and form recommendations for investments to ensure a reliable

and flexible peaking fleet into the future. The results of the study identified the ACT units as the “most challenged” based on their age and material condition and recommended that they be replaced. The CT Modernization Study also recommended adding new aeroderivative CTs to enhance system flexibility, integrate increasing renewable capacity, and provide dispatchable capacity. The proposed action would also be consistent with the findings and recommendations of this study.

In June 2021, TVA issued an environmental assessment (EA) addressing the retirement of the CT units at Allen. At that time, TVA issued the Paradise and Colbert Combustion Turbine EA and an associated finding of no significant impact, in which TVA addressed the retirement of all 20 CT units at its Allen and Johnsonville plants and the replacement of the capacity lost with new CT units at its Paradise and Colbert plants. Under the current proposal, TVA is considering the continual operation of existing Units 19 and 20 at ACT, previously identified for retirement.

In December 2022, during Winter Storm Elliott, 16 of the units at ACT failed to start, impacting the TVA system position by 240 MWs. Since this event, these 16 units at Allen have ceased operations. Only two units at ACT (Units 19 and 20) are operable.

Project Purpose and Need

The purpose of the proposed action is to increase the flexibility and reliability of TVA power system by improving TVA’s transmission system stability in western Tennessee and providing new, dispatchable generation to support the continued system load growth experienced in the TVA power service area over the past few years. These improvements would help TVA to expand and integrate renewable energy resources onto its transmission grid, which would allow TVA to advance its decarbonization goals.

TVA has identified the need to improve the stability of its transmission system in the western portion of Tennessee. In this area, additional resources are needed to ensure that adequate transmission voltages are maintained within the desired limits. In addition,

as identified in the 2019 IRP, TVA needs flexible, dispatchable power that can successfully integrate increasing amounts of renewable energy sources while ensuring it can meet required year-round generation and maximum capacity system demands and planning reserve margin targets.

Anticipated Environmental Impacts

The EA or EIS will include an evaluation of the environmental, social, and economic impacts associated with implementing the proposed action. Because all ground disturbing activities associated with the proposal would occur within previously disturbed areas of TVA's Allen facility, TVA anticipates that the primary issues to be addressed in the EA or EIS will be impacts to air quality, climate change, environmental justice, and transportation. Other resource issues, including socioeconomics and surface water quality, will be addressed. Measures to avoid, minimize, and mitigate adverse effects will be identified and evaluated in the EA or EIS. TVA seeks input from the public during the scoping period on other relevant issues that should be considered and potential mitigation measures.

Anticipated Permits and Other Authorizations

TVA anticipates seeking required permits or authorizations, as appropriate. TVA's proposed action may require issuance of an air permit under the Clean Air Act; an Individual or Nationwide Permit under Section 404 of the Clean Water Act; Section 401 Water Quality Certification; conformance with Executive Orders on Environmental Justice (12898), Wetlands (11990), Floodplain Management (11988), Migratory Birds (13186), and Invasive Species (13112); and compliance with Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and other applicable Local, Federal, and State regulations.

Public Participation and Scoping Process

Scoping, which is integral to the process for implementing NEPA, provides an early and open process to ensure that issues are identified early and properly studied; issues of little significance do not consume substantial time and effort; the draft EA or EIS is thorough and balanced; and delays caused by an inadequate EA or EIS are avoided. TVA seeks comment and participation from all interested parties for identification of potential alternatives, information, and analyses relevant to the proposed action in this EA or EIS. Public comments received during the scoping period will assist TVA in determining the appropriate level of NEPA review.

Information about this project is available at <https://www.tva.gov/NEPA>, which includes a link to an online public comment page. Comments must be received or postmarked no later than [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Federal, state, local agencies, and Native American Tribes are also invited to provide comments. Please note that any comments received, including names and addresses, will become part of the project administrative record and will be available for public inspection. TVA plans to have an open house meeting during the scoping period. Visit <https://www.tva.gov/NEPA> to submit comments and obtain more information about the open house meeting.

EA or EIS Preparation and Schedule

TVA will consider comments received during the scoping period and develop a scoping report which will be published online. The scoping report will summarize public and agency comments that were received and identify the projected schedule for completing the environmental review process. TVA will post a draft EA or EIS for public review and comment on the project web page. TVA anticipates holding a public open house after releasing the draft EA or EIS. TVA expects to release the draft EA or EIS in Spring or Summer 2024 and a final EA or EIS in late 2024. If an EIS is prepared, TVA would publish a Record of Decision at least 30 days after the release of the final EIS.

Authority: 40 CFR 1501.9.

Rebecca Tolene,

Vice President, Environment and Sustainability.

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